METHOD FOR MANUFACTURING POLYGONAL SEMICONDUCTOR RING LASER

Publication number: JP2002344080

Publication date: 2002-11-29

Inventor: SATO TAKAHIRO

Applicant: CANON KK

Classification:

- International: ***G01C19/66; H01S5/10;*** **G01C19/64; H01S5/00;** (IPC1-7): H01S5/10; G01C19/66

- european:

Application number: JP20010145107 20010515

Priority number(s): JP20010145107 20010515

Abstract of **JP2002344080**

PROBLEM TO BE SOLVED: To simply manufacture a semiconductor ring laser, having low current threshold and high reliability. SOLUTION: A method for manufacturing the polygonal semiconductor ring laser comprises steps of growing an n-type AlGaAs clad layer 11, an active layer region 12, an AlAs-current constriction layer 13, and a p-type AlGaAs clad layer 14 on an n-type GaAs substrate in Fig. (a); and patterning a first resist 1 thereon, in a shape of an optical waveguide. The method further comprises the step of dry etching all the clad layer 14 in Fig. (b). In this case, the narrowing layer 13 is utilized as an etching stop layer. The method also comprises the step of patterning a second resist 2, so as to expose a part which becomes the corner mirror of the polygonal semiconductor ring laser in Fig. (c). The method also comprises the step of exposing the region 12, and the layer 11 only at the mirror with the first and second resists 1 and 2 as masks in Fig. (d). The method also comprises the step of selectively oxidizing the layer 13 in a water vapor in Fig. (e).